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POLYMER PRODUCTS DEPARTMENT  
EXPERIMENTAL STATION

PERSONAL AND CONFIDENTIAL

cc: A. J. Dahl - 353  
B. W. Karrh - N11400  
L. J. Papa - 269  
Pral File  
I.C.

Complainant's  
Exhibit No. **55**

July 16, 1981

DR. J. E. STOUT  
PHOTO PRODUCTS  
BREVARD, N.C.

ANALYSIS OF BLOOD SAMPLES FOR PERFLUOROOCTANOATE  
(Job No. 811-681; PRAL Nos. 81-2535-2540; Notebook Nos. E22514, E26238)

As requested in your letter to L. J. Papa, the 3 blood samples received 6/4/81 have been analyzed for perfluorooctanoate (C<sub>8</sub>). Results and sample identification are given in the attached table.

As noted there, the analyses were done using a gas chromatographic method specific for C<sub>8</sub> (Lab Method Number ES-567) but results have been reported as ppm F for comparison with total organic fluorine analyses. Precision is  $\pm 10\%$  relative standard deviation over most of the concentration range, somewhat less at the lowest values. The lower limit for quantitation is 0.007 ppm F (0.01 ppm perfluorooctanoic acid), with a detection limit of  $\sim 0.004$  ppm which can be distinguished from the reagent background but not well quantitated.

Please contact me (772-4440) or L. J. Papa (772-2745) if you have any questions regarding the analyses. General questions on blood sampling can be directed to J. W. Raines or L. F. Percival.

*S. S. Stafford*  
S. S. Stafford

Attachment  
jah

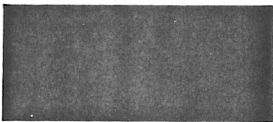
Key Words:  
Perfluorooctanoic Acid  
Perfluorooctanoate  
Blood Analysis  
GC

There's a world of things we're doing something about

EXP000040  
EID713854

TABLE I

CONCENTRATION OF PERFLUOROOCTANOATE IN BLOOD (a)

Sample (c)				GC Analysis	
PRAL No.	Date Sampled	P.R.No.	Name	Date Analyzed	[C <sub>8</sub> ], µg F/g blood
81-2535	6/2/81	5100		6/19/81	n.d.
81-2537	6/3/81	WSR		6/19/81	n.d.
81-2539	6/3/81	5130		6/19/81	n.d.

- (a) Analysis as described in Lab Method ES-567 ("Determination of Perfluorooctanoic Acid in Blood, Gas Chromatographic Method", S. Stafford, 4/3/81), using the packed column GC analysis with perfluoro-n-octanoic acid as calibration standard.
- (b) Although the analysis is specifically for perfluorooctanoate (acid or salts), concentrations are given in ppm fluorine for comparison with the results of total organic fluorine analyses. (ppm F = 0.688 x ppm perfluorooctanoic acid) Estimated uncertainty is  $\pm 10\%$  relative standard deviation. The lower limit for quantitation is 0.007 µgF/g. The detection limit is  $\sim 0.004$  µgF/g, but concentrations in that range cannot be well quantitated and are reported as  $< 0.007$ . None detected (n.d.) is reported for samples with  $[C_8] \lesssim 0.004$  ppm, which cannot be distinguished from reagent background.
- (c) Two samples of blood were received for each individual, one taken in a heparinized collection tube (81-2535, 2537, and 2539) and a second taken in an EDTA collection tube (81-2536, 2538, and 2540). Analysis was done on the heparinized blood samples.